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10/520,006	02/16/2006	Koji Kawaguchi	FEC 144NP	7009

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EXAMINER	
HOLLWEG, THOMAS A	

ART UNIT	PAPER NUMBER
2879	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/520,006	KAWAGUCHI ET AL.	
	Examiner	Art Unit	
	Thomas A. Hollweg	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-11* is/are rejected.

7)☒ Claim(s) *12-14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgment of Amendment After Final

1. Applicant's Amendment After Final, received February 23, 2009, is entered. Applicant's arguments regarding the order of layers disclosed in Yamazaki et al., U.S. Patent No. 6,815,723, is found to be persuasive. The finality of the Office Action of December 12, 2008, is withdrawn. Applicants other arguments have been fully considered, but are moot in light of the following rejections.

2. No claims are added or canceled. Claims 8-14 are currently pending.

3. Amendment to claim 8 is acknowledged. The objection to claim 8 is withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al., U.S. Patent No. 6,967, 435, in view of Eida et al., U.S. Patent No. 5,909,081.

6. With regard to claim 8, in figure 4, Park discloses an organic electroluminescent display comprising: (a) an organic light-emitting device including, in the recited sequence, a substrate (100) thin film transistors (T) that each have a source (122) and drain (123), anodes or cathodes (150) that include an electrically conductive thin film material and are each connected to the source (122) or the drain (123) on a corresponding one of the thin film transistors (T), an organic electroluminescent light-

emitting layer (160), an upper transparent electrode (170) that is a cathode or anode and includes a transparent electrically conductive material, and at least one passivation layer (180) on the upper transparent electrode (170) (col. 4, line 55 - col. 5, line 12); (b) a color-converting substrate that comprises a transparent supporting substrate (200), and color-converting filters (230) that comprise color filter layers alone, or color filter layers (230) and color-converting layers (240) and are disposed on the supporting substrate (200), the color-converting filters (230) having edges (col. 5, lines 13-38); (c) adhesive (300) that is disposed between the organic light emitting device and the color converting filters (230), and that bonds the organic light-emitting device and the color-converting filters (230) together with the color-converting filters (230) facing the upper transparent electrode (170) of the organic light emitting device (col. 5, lines 37-38); and (d) a stress-relieving layer (250) that is disposed between the organic light-emitting device and the color-converting filters (230), the stress-relieving layer (250) being patterned to have walls that are disposed in positions corresponding to the edges of the color-converting filters (230) and to have openings between the walls (col. 5, lines 33-35).

7. Park does not expressly disclose the materials used for the adhesive or the stress-relieving layer. It also does not expressly disclose that the adhesive extends into the openings between the walls because the contoured side of the stress-relieving layer faces the color-converting filters and not the adhesive.

8. Eida, in figure 6, teaches an organic electroluminescent display having color-converting filters (3), and a stress-relieving layer (7) and an adhesive (layer labeled 10),

between the color-converting filters (3) and the organic light emitting device (1) (col. 34, lines 1-35) Examiner notes that the cited text discusses the elements of the device in figure 6 without specifically referencing layers labeled 7 and 10, but after a close reading of the specification, the examiner believes that the "protective layer" discussed in the text is the layer labeled “7” in the figure and the "adhesive" discussed in the text is the layer labeled “10” in the figure. Examiner further notes that the device in the figure is also labeled “10” however, the element corresponding to the claimed adhesive is layer 10 not device 10.

9. Eida shows that both sides of the stress-relieving layer (7) are contoured to include walls and further shows that the adhesive (10) extends into the openings between the walls of the stress-relieving layer (10). Eida further teaches materials that can be used for the stress-relieving layer which are inherently stress relieving (col. 22, lines 3-24).

10. One having ordinary skill in the art would understand that the contours of the sides of the stress-relieving layers may be designed in virtually any configuration to achieve certain needs. The contours in the stress-relieving layer taught by Eida are designed to match the contours of the adjoining layers. As Eida shows the sides of the stress-relieving layer maybe contoured to include walls that correspond to the edges of the color-converting filters. Further, the sides of the stress-relieving layer maybe contoured to include walls or other features to alter the optical path of the light emitted from organic light emitting device, to increase the surface area contacted by the adhesive, or for ease or convenience of assembly. One would understand that during

manufacture an adjoining adhesive would fill in or extend into the contours chosen in the side of the stress-relieving device.

11. Therefore, at the time of invention, it would have been an obvious design choice for a person having ordinary skill in the art to construct the Park stress-relieving layer to have walls corresponding to the edges of the color-converting filters so that the adhesive extends into the openings between the walls. This design may be chosen to match the contours of the adjoining layers, to alter the optical path of the light emitted from organic light emitting device, to increase the surface area contacted by the adhesive, or for ease or convenience of assembly. It would have been further obvious to use one of the materials taught by Eida for the stress-relieving layer for their stress relieving properties (col. 22, lines 3-24).

12. With regard to claim 9, all of the limitations are disclosed by Park, except it does not expressly disclose the materials used for the adhesive or the stress-relieving layer. Eida teaches materials to use for the stress-relieving layer (col. 22, lines 3-24) and materials to use for the adhesive layer (col. 28, lines 18-24), where the stress-relieving layer may include a resin having a higher elasticity than the adhesive.

13. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Park organic EL device using the materials taught by Eida, where the stress-relieving layer may include a resin having a higher elasticity than the adhesive, to relieve stress from the device to prevent damage.

14. With regard to claim 10, all of the limitations are disclosed by Park, except it does not expressly disclose the materials used for the adhesive or the stress-relieving layer.

Eida teaches materials to use for the stress-relieving layer (col. 22, lines 3-24) and materials to use for the adhesive layer (col. 28, lines 18-24), where the stress-relieving layer may have a lower refractive index than the adhesive.

15. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Park organic EL device using the materials taught by Eida, where the stress-relieving layer has a lower refractive index than the adhesive to prevent internal reflection and increase the efficiency of the device.

16. With regard to claim 11, all of the limitations are disclosed by Park, except it does not expressly disclose that the walls of the stress-relieving layer has a reverse tapered shape relative to the color filter layers alone, or the color filters and the color-converting layers, of the color-converting filters.

17. Eida, in figure 6, teaches a organic EL device having color filters (3) and a stress-relieving layer (7) where the walls of the stress-relieving layer (7) has a reverse tapered shape relative to the color filter layers alone, or the color filters and the color-converting layers, of the color-converting filters (3), so that the stress-relieving layer (7) follows the contour of the adjoining layers (col. 34, lines 1-35).

18. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Park organic EL device where the walls of the stress-relieving layer (7) has a reverse tapered shape relative to the color filter layers alone, or the color filters and the color-converting layers, of the color-converting filters (3), so that the stress-relieving layer (7) follows the contour of the adjoining layers, as taught by Eida.

Allowable Subject Matter

19. Claims 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

20. With regard to claim 12, the prior art of record does not teach or fairly suggest an organic electroluminescent device having a stress-relieving layer, where the stress relieving layer is black, together with all other claim limitations.

21. With regard to claims 13 and 14, the prior art of record does not teach or fairly suggest an organic electroluminescent device having a stress-relieving layer, where the stress relieving layer has fine particles dispersed therein that promote thermal conductivity, or where the stress-relieving layer is formed from a polymeric material having fine carbon particles dispersed therein to promote thermal conductivity, together with other claim limitations.

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

23. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Hollweg whose telephone number is (571) 270-1739. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm E.S.T..

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TH/

/NIMESHKUMAR D. PATEL/
Supervisory Patent Examiner, Art Unit 2879